



This is “Accounting”, chapter 8 from the book [An Introduction to Sustainable Business \(index.html\)](#) (v. 1.0).

This book is licensed under a [Creative Commons by-nc-sa 3.0](http://creativecommons.org/licenses/by-nc-sa/3.0/) license. See the license for more details, but that basically means you can share this book as long as you credit the author (but see below), don't make money from it, and do make it available to everyone else under the same terms.

This content was accessible as of December 29, 2012, and it was downloaded then by [Andy Schmitz](http://lardbucket.org) in an effort to preserve the availability of this book.

Normally, the author and publisher would be credited here. However, the publisher has asked for the customary Creative Commons attribution to the original publisher, authors, title, and book URI to be removed. Additionally, per the publisher's request, their name has been removed in some passages. More information is available on this project's [attribution page](http://2012books.lardbucket.org/attribution.html?utm_source=header).

For more information on the source of this book, or why it is available for free, please see [the project's home page](http://2012books.lardbucket.org/). You can browse or download additional books there.

Chapter 8

Accounting

Accounting for the sustainable business extends beyond traditional financial and managerial accounting. Rather than externalizing the social and environmental costs of doing business, sustainability accounting seeks to honestly track, measure, and report direct and indirect economic, social, and environmental impacts of the business's operations. In other words, sustainability accounting seeks to internalize costs that have heretofore been externalized. Sustainability accounting may be known by other terms, such as social accounting, environmental accounting, social and environmental accounting, or social and ethical accounting, auditing, and reporting. Accounting specifically focused on greenhouse gas emissions is referred to as carbon accounting. Furthermore, reporting the results may be termed sustainability reporting, corporate social responsibility reporting, triple bottom line reporting, and nonfinancial reporting.

Prior to beginning any attempt to measure a company's triple bottom line impact, it should be clear what principles of corporate behavior the company aspires to follow and identify specific standards that support the principles. Landrum, Daily, and Vjin (2009). Principles and standards will be discussed in greater detail in [Chapter 9 "Next Steps: Sustainability Strategy"](#), but it is important to understand that identification of principles and standards is a precursor to the selection of tracking, measuring, and reporting tools for sustainability accounting.

Since examining nonfinancial performance of the business is a voluntary initiative, a myriad of options have emerged for sustainability accounting, and the realm of possibilities can be quite overwhelming. In this chapter, we will focus only on areas specific to accounting (measurement and accounting tools, reporting, assurance, and stakeholder engagement) and will address senior-level management issues (principles and standards) in a later discussion (see [Chapter 9 "Next Steps: Sustainability Strategy"](#)).

8.1 Measurement and Accounting Tools

There exists a plethora of measurement and **accounting**¹ tools available, depending on the direction your company has decided to follow in terms of social impact, environmental impact, economic impact, or a complete three-dimensional approach to sustainability. Measurement and accounting tools refer to calculators and formulas and are not to be confused with standards, benchmarks, or thresholds for achievement (to be discussed in [Chapter 9 "Next Steps: Sustainability Strategy"](#)). These measurement and accounting tools allow the company to measure its current behavior to establish a baseline, to set goals for improvement, and to measure future behavior to determine progress. This chapter will introduce you to the most common tools used by sustainable businesses.

Measuring Impact Tool

The World Business Council for Sustainable Development and the International Finance CorporationWorld Business Council for Sustainable Development and International Finance Corporation (2008). have jointly created the **Measuring Impact Tool**². This tool offers the broadest three-dimensional sustainability coverage by measuring governance, (environmental) sustainability, assets, people, and financial flows. The Measuring Impact Tool is designed to work with the Global Reporting Initiative and the International Financial Corporation's Performance Standards for assessing projects on social and environmental standards before making investment decisions.

1. A type of accounting that tracks, measures, and reports the direct and indirect economic, social, and environmental impacts of a business's operations. Also called social accounting, environmental accounting, social and environmental accounting, or social and ethical accounting, auditing, and reporting.
2. A tool that offers the broadest three-dimensional sustainability coverage by measuring governance, environmental sustainability, assets, people, and financial flows.
3. A guide for companies in creating base-year measurements of GHG emission, both direct and indirect, which allows companies to determine their future goals for reduction.

Greenhouse Gas Protocol

There are a number of other measurement and accounting tools focused only on the environmental dimension of sustainability. The **Greenhouse Gas (GHG) Protocol**³ was jointly created by the World Resources Institute and the World Business Council for Sustainability.World Resources Institute and World Business Council for Sustainable Development (2004, 2005). The GHG Protocol guides a company in creating base year measurements of GHG emissions, both direct and indirect, and allows the company to determine its own future goals for reduction. No comparative threshold or standard is provided. This tool can be used to implement the ISO 14064 standard on GHG emissions, and work currently underway will soon show how the GHG Protocol can be used with the Kyoto Protocol.Although there are a plethora of online carbon calculators available to companies, they do not measure the full scope of emissions as detailed in the GHG Protocol.

Global Water Tool

The World Business Council for Sustainable Development's World Business Council for Sustainable Development (2007). Global Water Tool is currently under development with other groups around the world in order to standardize water footprint measurement, accounting, and reporting.

Global Environmental Management Initiative

In addition, the Global Environmental Management Initiative Water Tool, Global Environmental Management Initiative (2002). while not a quantifiable measurement tool, offers a guide for the corporation in analyzing corporate water usage throughout the supply chain, determining water-related risks and opportunities, and determining if the business case exists to create a water strategy. Both of these water tools are related to a specific environmental focus on water usage and do not consider broader environmental impacts.

Life Cycle Assessments

Life cycle analyses (or assessments, LCAs) are another tool used to measure the environmental impact of a company's performance related to one specific product or service. LCAs do not assess the overall environmental performance of a company; they are focused only on the product or process under review. Nonetheless, LCA is a useful measurement tool for the sustainable business to help determine impacts of various products and services. Please refer to [Chapter 5 "Research and Development"](#) for further discussion on applications of LCA.

8.2 Reporting

The Global Reporting Initiative (GRI) is the world's most frequently used **reporting**⁴ guideline and format. KPMG International (2008). Currently in its third version, G3, this standard was used in reporting by nearly 1,500 businesses worldwide in 2007 and is becoming the accepted standard for reporting. The GRI is a template designed to be customized to the business; it offers industry-specific supplements to address the unique needs of the business. There are a number of software programs designed to aid in GRI reporting.

4. The reporting of the results of sustainability accounting. Also referred to as corporate social responsibility reporting, triple bottom line reporting, and nonfinancial reporting.

8.3 Assurance and Stakeholder Engagement

The final issues to consider in sustainability accounting are auditing and assurance as well as stakeholder engagement throughout the entire process. Sometimes referred to as a social (or environmental) audit, an ethical audit, or monitoring, auditing and assurance allows verification that proper checks and balances are in place to support the claims of the organization. There are currently two general assurance standards available, the AA1000 Assurance Standard and the International Standard on Assurance Engagements (ISAE) 3000, and one stakeholder engagement standard, AA1000 Stakeholder Engagement Standard.

AA1000 Assurance Standard

AccountAbility's AccountAbility (2008). AA1000 Assurance Standard seeks to create a process for implementation and reporting of the AA1000 Framework. To ensure consistency in implementing the assurance standards, AccountAbility offers certification courses to become a Sustainability Assurance Practitioner.

International Standard on Assurance Engagements 3000

As another option, the International Auditing and Assurance Standards Board of the International Federation of Accountants International Federation of Accountants (2003). has put forth the International Standard on Assurance Engagements (ISAE) 3000 standards for auditing nonfinancial statements. Keeping in mind that sustainability accounting is optional in the United States, some organizations may opt for providing internal assurance of activities and reporting. However, to increase credibility, organizations should opt for external third-party assurance from independent boards or firms providing sustainability audits or related services.

AA1000 Stakeholder Engagement Standard

Stakeholder engagement is another critical element that must be implemented throughout the entire sustainability accounting process. Stakeholder engagement is a process to promote cooperation between the organization and all its stakeholders as a means to involve and respond to the interests of stakeholders.

AccountAbility AccountAbility (2005a, 2005b). has issued the AA1000 Stakeholder Engagement Standard; however, it appears that most organizations develop their own stakeholder engagement process.

8.4 Accounting Methods

5. A method of financial reporting that details the internal company costs associated with each step in a production or service-related industry.
6. A method of financial reporting that assesses the financial costs of products and services over their lifetime and throughout the supply chain in lieu of passing along those costs to society and the environment.
7. A longer-term accounting method that examines the total costs of products from inception to operating costs to end-of-life costs. Sometimes referred to as life cycle cost analysis, LCC is only useful as a planning tool for costing.
8. A form of life cycle costing that includes the direct and indirect costs of the environmental impacts (the eco-costs) of the product into the total costs of the product.
9. A method of cost accounting that seeks to determine the full costs of the societal, economic, and environmental impact (the triple bottom line) of a given manufacturing or service activity. Also referred to as total cost accounting.

In recent years, overhead costs have become an increasingly significant part of product cost. Managers need high quality cost information to maintain greater control of processes and achieve quicker responses to competitive pressures. As a result, firms are using **activity-based costing (ABC)**⁵ to pinpoint internal company costs associated with each step in a production or service-related activity. Kaplan and Cooper (1998). While ABC is appropriate for financial reporting according to Generally Accepted Accounting Principles (GAAP), sustainable businesses seek to account for all costs over the long term. That is, sustainable businesses are looking beyond internal costs and are including broader considerations such as costs associated with the entire value chain or, as discussed in past chapters, the costs associated with cradle to cradle activities. **Sustainability costing**⁶ seeks to internalize those costs that have been historically externalized. The sustainable business now considers the financial costs of products and services over their lifetime and throughout the supply chain rather than passing those costs to society and the environment.

Accounting methods taking a longer term orientation include life cycle costing, life cycle environmental cost analysis, and full cost accounting. **Life cycle costing (LCC)**⁷ or life cycle cost analysis seeks to fully capture and internalize costs by examining the total cost from inception costs of products (development or purchase, delivery, installation) to operating costs (energy, water, maintenance, and repair) to end-of-life costs of products (removal, replacement, salvage, disposal). Barringer (2003). LCC cannot be used for financial reporting and, in general, is not consistent with GAAP, but is a useful tool for managers in costing from a planning standpoint.

Life cycle environmental cost analysis (LCECA)⁸ is another form of LCC; however, the objective of LCECA is to include eco-costs into the total costs of the product, or the direct and indirect costs of the environmental impacts caused by the product. With LCECA, sustainable businesses can more clearly identify feasible alternatives for cost-effective, environmental products. Kumaran, Ong, Tan, and Nee (2001).

Full-cost accounting (FCA)⁹, also known as total cost accounting, broadens the assessment of external costs and incorporates future costs. This approach seeks to determine the full cost of the societal, economic, and environmental impact (triple bottom line) of a given manufacturing or service activity. Fundamental to FCA is the valuation of the opportunity costs, hidden costs, or trade-offs that were made when the option to use a particular limited resource was selected. Carter, Perruso, and Lee (2008).

Accounting professionals are in a unique position to help the organization accurately measure and report social, economic, and environmental impacts. Various accounting methods and measurement and accounting tools aid in capturing the real costs of products and processes. Furthermore, a common sustainability-reporting framework exists to guide organizations in understanding what items to report. Lastly, guidelines for assurance and stakeholder engagement also exist to provide assistance for businesses.